5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
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improper to eat meat without introducing some element of gift exchange, very much like 'party food' in our own society.

In general, people take any wood they need from their own land. The only record I have of transactions involving wood concerns the obtaining of less common building materials for houses. My informants made a clear distinction between gifts of bush trees and gifts of sago. The former kind create no specific debt but whenever sago is taken a return gift is expected, because, I was told, sago is a cultivated plant.

With regard to feathers and *hambo*, attitudes differ as between areas where raw materials are plentiful and areas where they are rare. On the Mount Lamington foothills they seldom enter the exchange network – perhaps once a generarion, during a ceremony of uncommon importance. On the alluvial plains, they are a frequent trade item.[8] Of other items of traditional trade, betelnuts and lime are the most important. Betelnut grows only on the foothills; lime is made of shells collected on the seashore. It was, and is, therefore common to exchange one for the other, as betelnut can be chewed only together with lime and betelnut chewing is as popular a social activity among the Orokaiva as it is throughout New Guinea and Indonesia. A peppery plant called *hingi* (piper betel) is always chewed with the other two ingredients. This again grows best on the hills, so that it is often exchanged with the betelnuts. The alluvial plains are in a poor bargaining position with regard to the betelnut complex as they produce none of the ingredients from their own land. It may be partly for this reason that they are accustomed to accumulating animal products and to using these as objects of trade.

By far the largest number of exchanges take place within a village, only a minority of transactions occurring between members of different village

TABLE II/7

ACQUISITION OF 'HAMBO' AND 'DI'
(*Source*: Crocombe and Hogbin 1963: 51; Rimoldi 1966: 80)

	Sivepe		*Inonda*	
	Hambo	*Di*	*Hambo*	*Di*
Inheritance, cash value ($)	48.40	17.60	18.60	5.70
Percentage	53%	40%	17%	12%
Cash Purchase, value ($)	9.30	4.50	36.10	2.00
Percentage	10%	10%	33%	4%
Bride price or other exchanges, value ($)	17.70	6.50	48.30	17.90
Percentage	19%	14%	44%	38%
Made or caught, value ($)	16.60	15.40	5.90	21.10
Percentage	18%	35%	5%	45%
Total, value: ($)	92.00	44.00	108.90	46.70

5: Schwimmer E-4,5 (1966-1967) 1973
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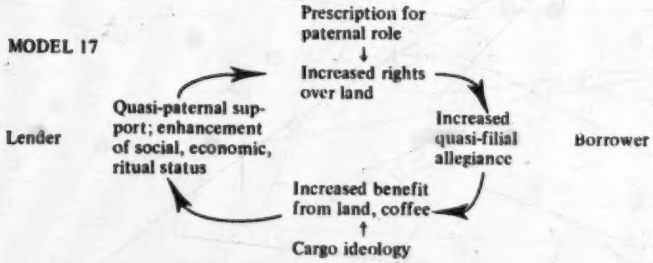
MODEL 17



The argument of the Tandai'undi and other owners of coffee-producing land is that the production of coffee gives the occupiers increased rights over land so that they owe an increased quasi-filial allegiance which must be expressed in increased prestations. These may take the form of substantial gifts, a share of the crop, etc. The benefit the owners seek to obtain from the land is nearly always money.

It may seem far-fetched that my model shows 'cargo ideology' as the 'mythological charter' for this desire for money. It may even be argued that the desire for money requires no ideological explanation. Without entering upon this larger question, I would directly relate the significance given to money in Orokaiva ideology to what has been said in the previous chapter about Jesus Christ as a *dema* figure. It is He who is credited with the introduction of money into the world and this is regarded as perhaps His greatest blessing. Hence the pursuit of money is not despised by Orokaiva nor even viewed as morally neutral: to acquire money is to give evidence of having followed the precepts of the *dema*. If the mysteries of the *dema* were more fully revealed to the Orokaiva, they believe they would acquire a great deal more money.[4]

I would argue that the Orokaiva regard the coffee industry as a premonition of greater wealth and power that may later come as the result of the return of the ancestors. Until the coffee industry started, Orokaiva could earn money only by leaving their villages to work for white men. Suddenly it became possible to obtain equivalent amounts from the products of village soil. What stirred the imagination was that a man could go to his garden, pick the coffee and then, after a not too demanding ritual of processing, pour it into a bag and obtain money for it. This was not classified as work but as a kind of magic. *Work* (the Pidgin English word) referred exclusively to paid labour done for an employer. *Pure* referred more specifically to the traditional gardens. *Kapi* (coffee) was what one might compare to a 'money tree': it was the source of the benefits which enabled a village family to share in the 'new day'.

From the cases I observed at Mumuni and Sivepe I gathered that some modest proportion of the proceeds of the coffee garden (like a tithe) would not satisfy the owners of the land upon which coffee was grown by useholders. They seemed to want all, or nearly all, the cash that could be gathered from the bushes. It was because their claims were immoderate that I began to think of the influence of cargo ideology.

5: Schwimmer E-4,5 (1966-1967) 1973
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One might well regard such immoderate claims as the response to a breakdown in the social exchange relationship. According to model 17, increased rights over land should mediate an *increased* quasi-filial allegiance, implying an increased willingness to aid and share with maternal relatives. Such, however, was rarely in evidence. On the contrary, most coffee-growers, engrossed in the new task of growing coffee, tended to ease up on their family obligations, gave fewer feasts and were apt to neglect their maternal relatives. This was especially so because Church influence reduced the scope of initiation ceremonial which is one of the traditional key functions of the maternal family. Certainly the maternal family hardly shares at all, under normal circumstances, in the increased wealth generated by coffee-growing. Thus the uterine landowner feels relatively alienated from his affluent nephew.

In order to demonstrate the importance of quasi-filial allegiance as a factor in land transactions, I shall cite one case, again from Inonda, where coffee gardens are being run profitably on land over which the grower holds only 'permissive' rights. The three coffee gardens established in 1955, and still harvested in 1967, are on land owned by the Endehi'undi clan but relinquished after a defeat in war. It has been used by Andiriha of Inonda since 1915. When Inonda people started to grow coffee, Endehi'undi reclaimed this land. Inonda paid $32 in cash, as well as pigs, traditional valuables and taro, in other words, a very substantial consideration (Crocombe and Hogbin *ibid.*: 73) After a few years, as Andiriha continued to benefit from the coffee, it became obvious that Endehi'undi did not regard this consideration as a *sale* price as Andiriha hoped they would do. They saw it as no more than a proper display of quasi-filial allegiance, and expected this sort of gesture to be repeated, or to recover the land.

The Andiriha leader now invited a widower belonging to the Endehi'undi group to move into his household. The invitation was accepted and in 1967 the old man was still there. There was no further trouble over the coffee although Andiriha did not tempt fate by making further plantings. By Orokaiva legal concepts, the balance was restored. By a shrewd manoeuvre, the Andiriha leader had found a way to offer increased quasi-filial allegiance in such a way that the profit from the coffee gardens was not reduced too much.

Instances of this kind help us to understand what was involved in the Orokaiva system of residual or dual rights over land and dual allegiance owed by individuals to different families from which land useholds are derived. We have long tended to believe that the basic co-operating groups in primitive societies are *corporate* groups. The Orokaiva data presented here show a second possibility: namely a system by which individuals derive their land, and therefore their sustenance, from a cluster of corporate groups in only one of which they are a corporate member, although they maintain permanent exchange relationships with the others. These other corporations do not make them permanent gifts but leave them conditional upon the successful continuation of the relationship. The fact that a man holds land on such terms *forces* him to continue the relationship.

It is impossible, therefore, to say just what constitute 'residual' rights in land. In the example I analysed, it appears that a group's rights include rights to coffee when it lives in another village, but not when a member of that group stays in the house of one of the growers and is fed by that grower's wife. Perhaps the

435 245 At the time of planting, copra prices were relatively high (averaging £32.10.0 per ton f.o.b. in 1920) but a fall in overseas prices and the introduction of the Navigation Act in 1921 (which resulted in exports to Europe having to go to Australia first) made copra production uneconomic.(1) [258] [249] No copra was ever made from the community coconut grove at Ongoho, nor were the small stands of rubber and citrus fruits ever exploited. 245 425 After the war the Akute'undi, as landowners, claimed the trees as their own on the ground that the community project had been abandoned long before. One Akute'undi man claims and uses about half of the trees. His father planted food crops on that part of the land before the coconuts were planted and he now plants vegetables between the coconuts. Each of the resident Akute'undi men claims the right to the produce of several particular trees on the other half. Three trees are set aside for the medical assistant at the local Aid Post, as he is a stranger. Most members of the other sub-clans question the [578] right of the Akute'undi to the exclusive use of the coconuts as all groups participated in the planting. Occasionally some member of the other sub-clans asserts himself and collects nuts from the "community plantation" and the dispute which is normally quiescent flares up again.

245 258 249 Enquiries in fifteen other Orokaiva areas where coconuts were planted under the regulations show that most were never used for copra-making, though a few of those on the coast were so used from time to time. Not one plantation was systematically exploited. The rubber was not tapped as there was no market for the latex, and most plantations were not cleared after planting.(2) The citrus fruits were never exploited commercially, again because there was no market.

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(1) By 1923 average f.o.b. price per ton had fallen to £19.0.0 and by 1930 to £11.10.0. By 1934 the price was £8.0.0 per ton in London or about £4.10.0 f.o.b. Papua, though Papuans had long since stopped selling. The above prices were those paid to exporting traders, and net prices paid to indigenous producers were probably not much more than half those mentioned above.

(2) After 1941 other arrangements were made for use of the rubber plantations. For details see Rimoldi 1964.

000 Appendix B. No further communal plantations were ever established.

425 435 Payment for the land purchased by the Crown was made in tobacco, mirrors, belts, knives and axes. The precise cash value of these goods is not known, but the value of twist tobacco at that time was about 3/- per pound, (or 1½ pence per stick) and the various goods chosen as payment by different individuals indicate the following values:

1 mirror	=	3 sticks tobacco	=	4½ pence
1 belt	=	3 sticks tobacco	=	4½ pence
1 small knife	=	4 sticks tobacco	=	6 pence
1 large knife	=	16 sticks tobacco	=	24 pence
1 axe	=	29 sticks tobacco	=	43½ pence

The 16 blocks listed in Appendix A[1] contained 266 acres of land (with blocks ranging from 10 to 30 acres) and were bought for 23½ pounds of tobacco, 21 mirrors, 21 belts, 14 small knives, 6 large knives and 1 axe, or an approximate cash value of £5. 8.11 or just under 5 pence per acre of land.(1) The payment was divided equally between those persons listed on the purchase documents as the owners.

425 The officers who negotiated the purchase signed a declaration in each case to the effect that the land purchased was "unoccupied at the time of sale", though in several instances present-day informants have named the families or lineages which were gardening there at the time the plantations project began. As the land was to be set aside for the use of the local people the officers were perhaps less meticulous in this regard than they would otherwise have been, and in one instance signed a declaration to the effect that the land was unoccupied even though it was stated elsewhere on the document that the land had been under crop for some years and remained so.(2)

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(1) The first five blocks were purchased by an officer who paid one pound of tobacco per five acres (equivalent to 7d per acre) and the rest within a matter of weeks by another officer who paid in a wider range of goods worth the equivalent of just over 4d per acre There is no noticeable difference between the lands concerned. These prices are much the same as the Crown was paying for land elsewhere in the Territory at that time.

(2) Amboga plantation No. 26 (extension).

A. [See Category 423, pp. 37-40--Analyst]

Production and income

433 241 While official reports give laziness or misunderstanding as the reason for the lack of willing co-operation with the scheme, the reason given today by the people themselves is that the income was inadequate for the effort required.

Table 1 shows the total production of coffee from plantations established under the ordinance in the Orokaiva area for the ten year period 1931-40, and the amounts paid to producers for it. [435] The price per pound has been calculated and ranged from 4.5 pence (in 1932) at the highest to 2.1 pence (in 1938) at the lowest. The average price for the period was 2.6 pence per pound.(1)

433 434 245 [465] Table 2 shows that output per acre of land planted in coffee under the scheme averaged 681 pounds, which is a relatively high yield. At 2.6 pence per pound this would have given an income of £7.7.5 per acre. The total work force on all the plantations is estimated to have been about 700, so payment would have averaged £1.11.0 per worker per year, or less than 2 pence per day worked. The 15½ acres of coffee in the Ongoho block(2) would, assuming average yields, have given an annual income of £114.5.0, or just over £1.0.0 per worker, but informants today maintain that payment at Ongoho was usually 8/- to 12/- per man per year with young lads being paid 5/-. [464] Only on one or two occasions did the payout exceed £1. The total labour force in the nine villages which participated in the Ongoho block was probably close on 100 and yields per acre 465 were apparently lower than average. Enquiries at other communal plantations show that higher prices were paid in places [466] where a smaller labour force was working an equally large area. In Hohota, for example, £6 to £9 was paid per man in some years, but there the hours of work are said to have been 6 a.m. to noon six days a week, plus afternoon work at harvest-

[439] (1) The world trade depression had begun about the time the first coffee was coming into full production. The crop was marketed in Australia where it met strong competition from Java coffee.

(2) Our measurement of the planted area shows it to have been just over 15½ acres, though the area gazetted was only 15 acres.

[TEXT CONTINUED ON PAGE 19]

6: Crocombe E-4,5 (1963) 1964 OJ23 Orokaiva OJ23

Table 1

Production of coffee in the Orokaiva area from plantations established under the Native Plantations Ordinance for ten years 1931 - 40[1]

Year	1931	1932	1933	1934	1935	[illegible]6	1937	1938	1939	1940	Total	Yearly average
Weight (lbs)	9,630	22,652	67,470	60,645	61,425	123,000	127,000	171,595	187,300	163,319	994,036	99,404
Payout[2]	170	426	828	558	642	1,280	1,425	1,527	1,863	2,102	10,821	1,082
Pence per lb[3]	4.2	4.5	2.9	2.2	2.5	2.5	2.7	2.1	2.4	3.1		2 6

(1) Derived from Territory of Papua reports 1932 - 41.

(2) Net payment to producers in £ Australian.

(3) Calculated to the nearest tenth of a penny.

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the men who carried the coffee to Higaturu each Saturday were each given a stick of tobacco. By 1950 the basis of payment had been changed and producers were paid immediately and in cash for their produce.

The post-war drive did not last long and when official pressures were relaxed production dropped markedly. During 1949-50 extension staff made a further attempt to revive the scheme: seven plantations in the Higaturu area were fully rehabilitated and similar work was proposed for the plantations east of Popondetta. New processing equipment was purchased and a new coffee factory built at Higaturu, but it was hardly completed when Mt. Lamington erupted early in 1951 destroying the factory and many of the plantations as well. Production from the plantations scheme ceased as a result of the eruption, but it is doubtful whether it would have continued for long in any case. The price was low,(1) no external sanctions were imposed (and the people were not permitted to impose their own sanctions) and in many instances there was dispute over the shares to be given to landowners, supervisors, and others. In 1955 extension staff made a third and final attempt to revive the scheme, but it too met with little long term success.

No precise production figures are available for the plantations scheme in the Northern District, but as this scheme produced most of the coffee exported from Papua, total exports from the colony give an indication of the pattern which applied in the Northern District. These are listed in Table 3 below.

(1) In 1950 coffee was being bought in cherry at 2d per pound which is equal to about 10d per pound for parchment coffee. Data published in P.A.R. 1949-50 : 17 show that 40,160 man-hours were worked on the 56 acres of coffee then in production and that £767.12.3 was received from coffee sales. Making no allowance for establishment costs, this represents 4½d per hour worked.

extension staff left, the internal tensions re-asserted themselves. [245] [578] [654]

The people made an attempt to keep the garden working as the price of coffee was then 3/3 per pound. Persons from several sub-clans participated in harvesting, pulping and drying and a consignment of coffee was taken on foot to Popondetta (a distance of about seventeen miles each way by the paths then in use). For the first time women and children helped with the harvesting. The income from sales was distributed by the coffee boss, but disputes arose over the proportions due to the "landowners" for the use of the land and to the coffee boss for his supervision, as well as the relative shares to be given to those who had done the work, for some had not worked as many days as others. Members of other sub-clans again withdrew from the project. The coffee boss himself and some members of Hoiwo'undi sub-clan occasionally harvested a little coffee to provide money for particular needs, but most of it was left untouched. No further maintenance was done. When the Higaturu Council and its supervising officer, Mr. Normoyle, strongly advocated planting by individuals rather than groups, a number of people took seeds from the community garden and established their own individual coffee plots. [435] [462] [464] [578] [433] [434]

When the Higaturu Council erected a coffee factory in Popondetta late in 1959, councillors were encouraged to maximise coffee production in their areas. The Ongoho councillor (who is a half-brother of the ex-village constable)(1) was able to persuade some people to start harvesting again. On this occasion each family was to be allowed to harvest, process and sell whatever coffee its members picked.(2) People were to be allowed to pick anywhere and at any time. No maintenance was done except on one occasion at the beginning when all people worked together to clear the undergrowth. This system [578]

(1) When the council was formed all village constables were compulsorily retired. [625]

(2) The produce was still taken to Popondetta on foot. The Higaturu Council provided a tractor and trailer to collect coffee from various points along the main Saiho-Popondetta road, but Ongoho was about eight miles from the nearest point. As a flat rate of one penny per pound was charged for the service, the Ongoho people did not use it. They used to leave Ongoho at dusk and carry all night and arrive at the factory early the following morning. [489]

231 some toll on growth rates, size and length of life. Sows are quite prolific, however, and litters of 6 to 10 piglets which survive weaning are common. Boars are not numerous but it is claimed that the owner charges no fee for their services.

It is doubtful whether improved breeding and husbandry could [431] in themselves induce a significant increase in the consumption of meat by pig owners. Pigs are too scarce in this area to meet the existing demand and priority is given to the use of pigs for [435] distribution as pork at feasts or for gift exchanges. Very often neither a man nor his close kin have a suitable pig available when needed and in one such instance a price of £20 was set by the owner of a pig in another village.

Any person who aimed to establish a herd of significant numbers for commercial purposes would probably need to divorce himself as a participant from the network of exchanges which involve pigs.

245 e. Economic trees

[131] Although the village is 23 miles from Gona on the coast and over 1,000 ft above sea level, most economic trees are abundant. [133] The average household claimed 62 trees from which crops are gathered in season.[1] In order of numerical importance these were coconut, breadfruit, areca (betel) nut, sago, pandanus and tauga-nut (Cycas media) trees. Each household also owned one or two [137] citrus, puga-nut (Terminalia okaria), mango or barkcloth trees. Sago does not grow wild in this area as it does on more low-lying land, but numerous small creeks provide sites suitable for planting. The 93 sago trees owned by Jegase and Timumu people are sufficient to meet the intermittent demand for sago for distribution at large gatherings or during the occasional period when there are limited amounts of the more common crops ready to be harvested from the village's gardens. Whenever a tree is harvested the owner is expected to share the sago widely with the other villagers whether they are his agnates or not.

Most villagers had lived in several villages, some of which are now abandoned, and had planted coconuts there which they still claim. They usually had similar numbers scattered over parcels of land where they had gardened in the past. Sixty-two per cent of all trees had been planted on the patrimonial land of the [428] person claiming the trees. A man often plants trees while gardening on the land of affines or matrilateral kin and these trees are inherited by the planter's son.

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[1] These claims were not thoroughly investigated but their accuracy was checked on a number of sample parcels where householders claimed a specific number of trees of various kinds.

423 clansmen or other kin of members of the group. But this takes the
[C14] form of a request to these kin to attend and to bring the food with them and the group could never demand access to the resources of others.

Table 3

Rights to economic trees

	No. of trees	% of total
Planted by rightholder or his father on their own land	463	62
Planted by rightholder (or others) on land of another clansman in Sivepe or elsewhere	55	7
Planted by rightholder on land of matrilateral kin	22	3
Planted by others on land of his matrilateral kin	31	4
Planted by rightholder on land of affines	43	6
Planted by rightholder (or others) on land of cognatic kin of another clan	14	2
Planted within village sites	120	16
	748	100

241 f. Equipment

The hardwood dibbling stick, ti, is still used universally for planting taro. Other tubers are sometimes planted in mounds made with a shovel but all of the 4 shovels used by members of the sample had been found (at World War II Army dumps) or had been given to the owner. Every householder owned at least 1 bushknife for use in clearing, weeding and harvesting; all had 1 axe or sometimes 2, and at least 1 grass knife. A few of these tools had been received as gifts. Two householders had picks and 2 others had both hammer and saw, while 2 men had only a saw.

435 Total current replacement value of all these tools, including those found or received as gifts, is £50.6.0d.

The 2 shotguns owned by 2 men would cost roughly £30 each (apart from licences).

g. Labour

461 We conducted a pilot survey of the patterns of work among
125 members of our sample for 6 weeks.[1] Approximate times were

[1] From 10.12.62 to 20.1.63 a similar survey was carried out at Inonda (Crocombe and Hogbin 1963:61) and fuller studies by P. Krinks and E. Waddell are now being prepared for publication.

436 a standard of value. However, to some extent money seems to have [555] taken over some of the functions of traditional valuables and in some situations one is exchanged for the other. In the past it [301] was recognized that skill and initiative in hunting and trading [237] were necessary to acquire di hambo but today, with safer communi- [321] cations and better hunting equipment, they are more easily obtained. People are willing to buy some of the more valuable items or some [439] cheaper items of European manufacture which can be adapted to serve as a novel decoration.

Although they constituted the greater part of the goods changing [428] hands on traditional ceremonial occasions, di hambo are evidently not now circulating rapidly. A little less than half of these valuables held by members of the sample had been inherited and nearly a quarter had been acquired by the owner by hunting or collecting.

A complete adjustment between the roles of money and of non-monetary valuables has not yet been made. They circulate in the same exchanges and both are considered essential; it may now be [583] accepted practice that each should be contributed by or distributed amongst different categories of kin on these occasions.[1] But the opinion was widely expressed that as people are increasingly demanding cash as a large part of bride price payments, the intrinsic value of these exchanges was correspondingly less.

435 Although money and traditional valuables are not freely interchangeable, we collected details of the prices paid for any items of di hambo which had been purchased by the sample,[2] and by using these in conjunction with the unitary scale of value on which informants could readily place all items, we assessed the possible cash equivalent of non-monetary valuables acquired by the 12 households from various sources. This is set out in Table 8.

Table 8

Cash value and acquisition of hambo and di
($)

	Inherited	Purchased	Bride price or other exchange	Made or bought	Total
Hambo	48.40	9.30	17.70	16.60	92.00
Di	17.60	4.50	6.50	15.40	44.00
Total	66.00	13.80	24.20	32.00	136.00

1 See Crocombe and Hogbin 1963:52.

2 These prices were very nearly the same as those recorded at Inonda (Crocombe and Hogbin 1963: Appendix B).

245 plots but agricultural officers intended to launch a campaign in
[654] the district in 1963 to induce a wider use of this method which could considerably improve the present disappointing yields.

[221] There is a definite seasonality in harvesting; production in the area reaches a peak in the months of the dry season and falls off after August. Growers are careful to pick only ripe cherries. They take the cherries in a bag to the river, pulp them by trampling the bag and then wash them. The beans are placed in hollowed logs or 'boats', covered with water and fermented for about 36 hours. They are then washed and spread in the sun to dry.

The resultant parchment coffee is carried to Saiho where the Orokaiva Coffee Growers' Society has a buying centre.

435 Not all receipts for sales of coffee from the sample plots had
[434] been kept but the 4 producers stated that their sales of parchment coffee had brought them a total of £11 in 1962. With the prices around 1 shilling per pound this would approximate the income expected from 500 trees bearing a little less than half a pound annually.

249 (ii) Rubber. We shall conclude our descriptive account of commercial agriculture with a historical resumé of the overall organization of the production and marketing of the rubber which for 40 or 50 years has been grown at Sivepe and throughout most of this tribal territory. This account seems worthy of inclusion here, not so much as a report on one of the very few areas in the Territory where rubber is produced from trees owned by indigenes, but as a sketch of part of a long and chequered experience of the cash economy which the mountain Orokaiva have had as primary producers.

Members of the clans now represented in Sivepe and Binduta participated in the planting of 4 small stands of rubber (Hevea brasiliensis) near their villages in the years following World War I. These plots, known as Binduta, Sarua, Korinasus and Pusahambo, ranged from less than half an acre to about 3 acres in area.

The Sivepe neighbourhood at the time was included in the Kokoda District, a part of the Kumusi Division. By 1918, 8,000 rubber plants had been distributed to villages in the district which was considered too far inland for worthwhile copra production. In 1920 the government plantation, established at Kokoda in 1908, had 12,000 rubber trees on its 125 acres, and villages in 27 subdistricts had a total of 5,000 trees planted in stands of their own. Among these were the 4 plots near Sivepe. The growth of the
[245] trees was said to be vigorous. By 1921, 7,000 rubber trees and 4,900 coconuts had been planted throughout the district and by 1922 the numbers had increased to 8,134 and 6,887. In 1924

249 177 [434] A new marketing scheme was devised after 1946. Any villagers who wished to tap their stands were provided with a tapping gouge and spout, anti-coagulate, treeseal and latex bucket by the same European planter. The tapper brought latex to the factory, was given a receipt and paid at the end of the week according to the weight of the dry rubber of the latex brought in. This system brought about a decline in tapping standards resulting in lower net cash returns for the villagers and seems to have been part of the background to their lack of enthusiasm for the lease noted by patrol staff in 1948.

433 249 In mid-1949 a report from the Popondetta District Office stated that all privately owned rubber areas were on the verge of closing down; production costs were high and market prices had fallen considerably.[1] The advent of the 'price-boom' later, caused by the Korean war, coincided with the eruption of Mt Lamington and the evacuation of the villages, and consequent cessation of production.

[435] By 1954 when attempts to organize systematic production were again resumed the market price had dropped to 5/6 d. per pound; the planter proposed to issue daily chits for latex bought and to pay cash at the end of every week. He offered the villagers, and the Administration agreed to, a price of a shilling per pound dry rubber content for all grades of rubber accepted. A system was organized whereby he provided for the transportation of latex by road from collecting points.[2] He arranged for the tapping of alternate 'sections' every 4 to 5 weeks; the time interval was dependent upon the density of the latex offered. Kongohambo was the collecting point for one 'section' consisting of stands between Kendata and Binduta; Koropata was the collecting point for another section. Only 70 villages were still supplying latex, mainly because of the accessibility. A report on native agriculture in January 1956 noted that villagers had sold 3,600 lb. (dry weight) of rubber for £180 in the previous 6 months. This was produced from only 10 stands 'near Awala' and it was felt that other existing stands would probably not be brought into production until roads were improved. By July 1958 the number of stands had not increased but 6,000 lb. (dry weight) of rubber was produced and sold for £300 in 5 months.

[435] In 1958 the villagers ceased to sell latex and started producing coagulum because the planter ceased to provide transport: the

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1 The report seems inaccurate where it says that the fall in price led the lessee to terminate production. In fact production continued.

2 Some villagers are under the impression that the price they were paid for their latex was lower when it was collected by the planter.

433 replacement of his vehicle being necessary but uneconomic. By
249 1958 independent production from his own plantation was increasing
[464] and, despite periodic renewal of enthusiasm for rubber,[1] the number of village tapping stands had dwindled,[2] due partly, in the planter's view, to the movement of increasing numbers of able men from their villages to take paid employment. Already, in 1955, it had been noted that in the areas near Awala and Sangara there was a serious shortage of manpower for work in the villages due to the absence of men employed as wage-earners.

In 1958 the people still interested in tapping adopted the planter's plan that, instead of selling latex at 1 shilling per pound dry weight of rubber as before, they should coagulate their latex themselves and carry it to the factory for sale at 6 pence per pound of coagulum. However if members of a distant village had a lot of coagulum for sale, they might still ask the planter to send a vehicle to collect it without charge.

[435] Bi-annual 'reports on native agriculture' put production from village stands for the year ending 30 June 1959 at 7,000 lb. (dry weight) and the price at 1 shilling per pound. In November of the
[404] same year it was estimated that rubber was produced from about 50 acres of village stands. By December another 2,750 lb. had been produced and the European planter suggested that declining production was due to the attraction of labour to the new Sangara
[245] European plantations and to heavy demands on villagers' time made by Administration departments and the mission. Coffee and cocoa planting was said to be increasing at the expense of interest in tapping rubber. In the first 6 months of 1960, however, 4,700 lb. (dry weight) was produced; by mid-1964 interest had increased further[3] and coagulum with an estimated dry rubber content of
[435] 1,500 lb. per year was being produced. In 1962 the price offered by the planter for coagulum had fallen from 6 pence to 5½ pence per pound.

249 It is not clear whether the individuals who offered themselves as tappers after 1946 had been conceded this or any other right by the rest of the villagers. Responsibility for distributing

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[1] In the first 6 months of 1955 production from 7 plots of rubber 'in the Sasembata area' rose by 60 per cent to 8,000 lb. dry weight (DS-29-855).

[2] The planter puts the number of villages involved at this time at about 30. The number participating at present is still about the same.

[3] Interest was aroused by the Ombisusu rubber project at this time (see p.102).

249 centre may be overtapped. No attempt is made to extend the area under rubber or to replace existing trees. Self-sown seedlings are allowed to struggle under heavy shading of parent trees and surrounding bush. Crowding leads to an accumulation of trash which presents a disease hazard.

A meeting of the local council recently adopted the proposal of a European planter that he should supply labour to clean the village rubber stands in the area in return for the scrap rubber collected in the process but the villages concerned refused to assent to the agreement.

In order to produce the coagulum the Sivepe tappers pour latex into hollowed-out sections of logs on the site of the stand and leave it to undergo natural coagulation but some other villages coagulate latex in the buckets they had received from the European planter. The blocks obtained in this way are washed in the river before being sold at the factory 3 miles away. Villagers claimed that coagulum produced from the Pusahambo stand in approximately 12 months before our survey was sold for £35, an average of £5.16.8 for each of the 6 tappers.[1] This figure was checked against records of receipts issued and indicates a yearly yield from the 2.4 acre stand at Pusahambo of 320-40 lb. per acre, despite the age of the stand and condition of the tapping panels.[2]

[435] 433

This compares with the Territory average of 400 lb. per acre which is the same as the estimated yield for the village rubber when the trees were worked for the first time and the tapping standard was good. Neighbouring European planters achieve yields of up to 800 lb. per acre with similar clonal lines and expect 2,000 lb. per acre from newly-introduced high-yielding trees. The first yields from a nearby Orokaiva smallholder's scheme in 1964 indicated a maximum yield of 500 lb. per acre with the old clonal lines.

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1 In 1964 Department of Agriculture staff reported that 1 month's tapping by a villager selling coagulum to the European might return £2 or £3, and that the tappers thought this amount too small.

2 An officer of the Department of Agriculture who inspected the area in 1962 suggested that most of the trees being tapped were self-sown.

433 so misguided, they have no reason to expect different results if they plant cocoa as advised by agricultural extension staff. A point of interest here is the fact that although various people volunteered this view on independent occasions, it has never been the policy of the District Agricultural Office to advocate cocoa planting in the Saiho (Sivepe) area, but neighbouring planters have also observed that this is the view expressed among neighbouring villagers.

[434] The areas of the gardens in which coffee was tried were too
[438] small to give satisfying returns.[1] The income of £11 earned by
[245] the sample by weeding, processing and marketing their coffee in 1962 compares unfavourably with the £13 received from the year's sales of betel nut which grows well in the area, requires no maintenance and finds a ready market at any time among travellers on the main road.

[435] It is said that enthusiasm for establishing coffee gardens was at a peak when the Administration paid 2 shillings per pound of parchment and has abated considerably since: a factor of central importance in the history of individual cash-cropping here and elsewhere among the Orokaiva is the fall of the price for parchment coffee - by more than 50 per cent since the Sivepe trees were planted.

The size of the decrease aside, it quickly became apparent to us that because the people have only a limited knowledge of the processing and marketing of coffee once the product has left their hands and no knowledge of the process of price fixation, fluctuations in price seem quite arbitrary. A general fall is seen as another instance of the inconsistent treatment they have come to expect as producers and their response is negative. The withdrawal of interest in extensive coffee production due to the uncertainty
[245] of rewards is reported to be common in most villages in this area. However, while 725 people in the Saiho area experimented with coffee, only 19 people, in 8 villages, have as yet decided to plant cocoa.[2] Economists estimate that the price of each major type of cash crop currently in production in the area can be expected to fall by about another 30 per cent on the world market in the next 5 years.

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1 The average of 187 trees per grower in the Saiho Census Division (according to rough estimates available in 1963) is not significantly greater than the sample's 126 per grower at the time of our survey. The 1964 agriculture census, which contains much more reliable data, gives the Saiho average as 232 trees per grower and the present average for Sivepe as a whole as 220 trees per grower.

2 Figures from 1964 census, District Agricultural Office.

[179] [654] [383] However, different proposals had already gained wide currency; whereas the Administration had previously refrained where possible from participating in the local development of rubber, agricultural extension services have been expanded in response to widespread renewed interest among the villagers and Department of Agriculture staff have recently established a factory near Ombisusu village on the scale considered suited for economic viability. It has an optimum capacity for the production of sheet rubber on smallholdings of 20 to 30 acres under high-yielding trees.

[425] Part of the programme at Ombisusu has been the redistribution of land for development as individual cash-crop blocks similar to the Yega cocoa project.[1] Demonstration of this development has undoubtedly further stimulated local interest in rubber. It is calculated that the problem of capital for investment in such a factory, a figure of the order of $240, might be met in the absence of sufficient village entrepreneurs by the co-operative ownership of facilities by a small number of neighbouring growers.

On the other hand the European who has been buying rubber from the villages believes that 6 smallholders, for instance, each with 6 acres, could be expected each to receive a net annual income on present prices of about $360 (after repaying a loan) only if the producer were to tap daily for 310 days a year on a semi-commercial standard and produce good quality sheet rubber without direct supervision from a fully qualified officer.

He envisages instead a pilot project which would involve the planting of about 100 acres with high-yielding seed at Sasembata, for instance, where the project 'would be partially financed by some 34 rubber areas now in bearing' and, having little overhead cost, 'could afford European supervision by subsidy from the Administration'. The new land might be made available on a co-operative basis; this should be developed by labour receiving 'a minimum basic wage and the unpaid value be credited as units held in shares', whereas the villagers tapping existing stands could sell the latex at the project centre on a poundage basis.

The Department of Agriculture's budget-planning, incorporating the possibility of small loans to producers, has been carried out on the understanding that all smallholdings should be held and worked by an individual or nuclear family.

[435] Establishment costs might be reduced if the building standard were to be lowered judiciously, if standard agricultural equipment

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[1] The participants in these schemes were reported to be keenly interested in the possibility of receiving registered title under the Land Tenure (Conversion) Ordinance, 1964.

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[435] is already in use and if, as is hoped, high-yielding seeds become available at a much lower cost.[1] The returns may be higher than this estimate since the prospective yields per acre in the area are very good. Participants would be encouraged to plant on contiguous areas near the factory. The extent to which this could be done without requiring measures such as consolidation of holdings would depend on the minimum number who could operate the facilities economically and on the area within which men could be found who were prepared to invest capital and time and to wait for returns.

The possibilities of extending such pilot schemes and of rationalizing land claims for use in cash cropping in general would be enhanced if a redistribution of the limited and fragmented land resources among the more progressive individuals could be effected quickly and economically through a consolidation scheme promoted largely by villagers themselves. Members of 2 clan branches in the neighbourhood, who claimed a remote historical link, expressed to us their desire to abandon the system of gardening in isolated places and to develop their land on a co-operative basis but the plan had not been at all thoroughly thought out. However, adjustments along the lines of the scheme which was introduced by Hohorita (another village in the council area) but which did not receive the Administration's immediate backing, would provide a valuable basis for the extension of cash cropping.

If the capital can be found and if there is a successful outcome to the plan to capitalize on current enthusiasm to promote small holdings of rubber (which promises the best returns to village producers), this could be a significant step towards providing individual producers with new scope for initiative. Although technical supervision and extension services would be necessary, such a development plan would avoid the situation which Keesing (1951:12) believed would accompany the development of village agriculture in the area - 'as in socio-political affairs... the responsible organization and leadership would have to be provided from outside, with the dependence relationship which this implies'.

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[1] At present these seedlings are sold at 2 shillings each from the nursery at Ombisusu.

454 considerable interest was shown, more than $14,000 being subscribed by the Orokaiva in the first six months of operation. However, it appeared during 1964 that this company might experience the same pattern of high initial interest and subsequent disenchantment, accentuated by the failure to pay a dividend at the end of the first year of operation.

439 Cocoa is purchased by both DASF and the Popondetta Cocoa Fermentary Ltd, a company financed entirely by European capital. Plans were being made in 1964 for the ex-servicemen settlers, both indigenous and expatriate, to establish their own fermentary.

366 [438] Weekly markets at Popondetta and Saiho provide outlets for subsistence produce but turnover is small and it is doubtful whether they contribute significantly to many individual incomes.[1] The principal buyer at Saiho is the Public Health Department and at Popondetta, the urban indigenous wage labour force, but in both markets the volume of transactions between subsistence-oriented villagers (primarily involving lime, smoked fish, areca nuts and fresh meat) is increasing.

435 461 [433] The Administration and the Anglican mission buy fresh foods brought to their stations. Since purchase prices were fixed by the Administration at 2c and the mission at 1c per lb,[2] and only a limited quantity is required, there is little incentive for the villager to increase production.

[241] In spite of an increasing commitment to cash cropping, rates of planting and levels of production fluctuate with changing prices and difficulties in selling certain crops. The purchase price for coffee has ranged between 9c and 32c per lb over the period 1955-65 while that for latex has fallen from a peak of 55c per lb during the Korean War boom to 9c per lb in 1965. A Citrus Marketing Scheme elicited much local interest in 1956-57 when fruit was purchased at 5c per lb, but it collapsed with the unwillingness of retailers in Port Moresby to handle the produce.

241 [464] (f) Conclusions

In spite of long participation in cash cropping, Orokaiva involvement is not high. Everywhere commercial production remains subsidiary to subsistence, individual cash crop holdings are almost

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[1] Dakeyne 1965:109; Rimoldi 1966:8. Both show, however, that a few individuals earn worthwhile sums from marketing.

[2] Bartered at this rate in salt, tobacco, razor blades and kerosene.

245 Pods are opened under the trees and the wet beans sold to the Popondetta Cocoa Fermentary Ltd, whose buyers operate along all roads in the cocoa areas between the coast and the Kumusi River. Where it would be uneconomic for the company to buy cocoa, as among the Aiga north of the Kumusi, DASF is the buying agent. Cocoa trees produce throughout the year but sales fall off during the wet season.

249 Rubber is sold as coagulum to a local planter who provides spouts, buckets and tools for incising the bark. A halved coconut shell is commonly used for receiving the latex. Two or three hours after the tree has been tapped, the latex is transferred to wooden boxes, hollowed logs or buckets and allowed to coagulate naturally. Until the inception of the Ombisusu rubber smallholders' factory in mid-May 1964, village rubber production in the Saiho area was restricted to a radius of five miles around the only buying agency at Awala, due to the necessity of carrying the rubber on foot to the factory. Rubber trees produce throughout most of the year, although there is a 'wintering' period of three months from August to October.

245 Copra can be sun-dried but most producers build a drying shed either of local materials or of corrugated iron left after the second world war. A shed may belong to an individual or a group and the drying system also may be individual or co-operative. Several hundred nuts are needed to make copra production worthwhile.[1] The nuts are halved and the fleshy interiors placed on a rack above a low fire kept almost smoke-free by using dry wood or discarded shells. After about a week, the copra is dry enough to be bagged and sold at one of the co-operative buying agencies at Killerton, [435] Buna and Oro Bay on the coast. The price is determined by the Copra Marketing Board and varies slightly with quality.

438 (ii) Marketing. In addition to the long-distance trading of [443] subsistence produce by coastal people, the inland people are also beginning to trade meat (pig, wallaby, etc.), smoked fish, areca, lime and locally grown tobacco for cash with other villagers, either by hawking or in the markets held regularly at Popondetta and Saiho.[2] Vegetables also are sold in the markets. At Popondetta a considerable variety of fresh vegetables, fruits and meat is bought by both indigenous and expatriate residents. Most vegetables

[433] [1] At Inonda there is an average of fifteen coconut trees per household producing an estimated 450 nuts per household per year. Assuming that a household uses one nut daily for cooking or drinking, this leaves less than 100 nuts per household for copra.

[2] See Dakeyne 1965:102-9, for a description of Popondetta market. Although sales of pigmeat in particular to villagers are increasing, the practice is deplored by the older people who have little or no cash in hand.

438 are supplied by villages within two or three miles of the township whereas the meat and fish may come from much further afield, since
435 their weight/value ratios are much higher than for vegetables. One pound of pigmeat sells for 10c - the price of four taros averaging eight pounds weight. Prices in the markets are standardised and
[434] not dependent on supply or demand. Those who sell meat or fish can earn worthwhile sums, since a wallaby may fetch $4 but, in general, marketing is a significant source of income only for people from the less densely-settled areas or the coast where fish or wild game are plentiful.

464 (iii) Wage employment. Several categories of wage employment are available to villagers from time to time. The construction of new all-weather roads within the sub-district has recently increased the opportunities for temporary employment as unskilled labour.[1]

The Administration frequently makes contracts for the supply of timber or the erection of buildings from local materials and both Sivepe and Inonda profited by these during the survey period. The contract may be made with an individual, who pays the others from the proceeds, or a group.

There are some opportunities for casual employment on plantations,
[461] but most planters prefer to employ workers from outside the Orokaiva area because they are less likely to be simultaneously involved in subsistence tasks and traditional obligations. Moreover, such work is not popular with the Orokaiva, who prefer to work for relatives holding blocks under the ex-servicemen's settlement scheme at
[465] Sangara, Isavene or Girua. Individuals or whole families may stay with relatives or friends in this way, sometimes for several months. No formal agreement is entered into and the villagers may work only intermittently, in return for their keep and, at the end, a sum of money and additional payment in kind (tinned meat, rice, sugar, etc.). In some cases, however, regular payment is made at the official casual rate of $3 a week. Work of this kind is popular and during the survey there was almost always at least one person temporarily absent from Sivepe visiting or working for settlers. At Inonda, it was possible to work for settlers on the Girua blocks while resident in the village.

[497] Anglican mission stations frequently employ school-leavers as
[465] 'medical orderlies' and 'nurses' in their clinics and hospitals. Standard IV or V education is required but the salary is normally only $1 a month and few adults are involved.

[491]

[1] This applied to villages between Popondetta and Inonda when the road to Oro Bay was improved in 1963-64, and in 1964 work began on the realignment and improvement of the Popondetta-Kokoda road, which passes through Saiho census division within three miles of Sivepe.

Only one man owns a mosquito net and there is only one transistor radio in the village. Some of the older people still wear tapa cloths but new ones are seldom made now. The more common form of dress is a pair of shorts, a skirt or a laplap, the skirts being mostly sewn at mothers' union sewing classes run by the Anglican mission at Sasembata.

Two men in the sample own shotguns, costing $58.75 and $59.75. These are the only items in the village representing large capital outlays and several other men had made contributions of $2 and $6 towards their purchase, so they can borrow them in return.

None of the houses conforms to the traditional Orokaiva style, but all are built wholly of local materials. They contain no raised platforms for sleeping, no shelves for food storage, and no cooking facilities other than an open fire. One man has built a 'kitchen extension' to his house while several other households cook primarily in shelters outside. Also, one man has built a simple table and bench outside and some members of the household occasionally eat at this.

A creek running beside the village provides the water for bathing, cooking, laundering, washing dishes and pulping coffee. Paths are narrow and unimproved despite constant use so that they become difficult to negotiate in wet weather. Not all households have pit latrines and those that do only use them irregularly. Small children often defecate on the village surrounds and standing water in various parts is a further health hazard.

Inonda

Inonda lands run from the low plains (200 feet above sea level), beside the Sambogo and Girua rivers, into the foothills of the Hydrographers Range. They include a variety of landforms, soils and vegetation - one-third of the village lands are covered with soils of the Popondetta family, which are well-drained sandy loam volcanic soils, supporting grasslands of Saccharum spontaneum-Imperata cylindrica alliance; one-fifth consists of coarse-textured riverine deposits which are moist, apparently fertile and support forest and regrowth. These are preferred for food gardens, although gardens are also made on the lower valley slopes of the Hydrographers, where the soils consist of well-drained clay loams covered with dense forest or secondary growth. The soils of the foothills are shallow and stony, supporting lower montane rainforest and, as with the grasslands, this area is used only for hunting and foraging. The CSIRO survey classifies most of the Inonda lands as having moderate land-use potential.

439 431 Discounting the effects of the researchers' presence, there is a considerable excess of acquisitions over disposals. This largely reflects the continued participation in the gift exchange system of villagers' kin who are in close contact with the monetary sector as wage earners or settlers (see Table 11:9).[1] The contributions of such people are particularly marked in the case of rice and clothing, which are, in terms of value, the most important items of storebought produce entering the gift exchange system. As well as rice, tinned fish, bread, trade tobacco and several lesser food items all enter into the exchange system occasionally. They are invariably given in small quantities, sometimes in the daily food transfers and sometimes as contributions to a feast or party.

(b) Monetary sector

435 432 Table 11:2 shows the total values of items acquired and disposed in exchanges involving an immediate return of cash. Purchases of subsistence produce are insignificant compared with the amounts acquired through gift exchange and they are usually made to fulfil an urgent need, such as feast contributions. Areca nuts, however, are bought occasionally. They are mostly obtained in the Popondetta market, whereas fish and game are purchased from hawkers. Some garden produce was sold to road construction workers early in the survey, but the main sales of subsistence produce were made in Popondetta market during periods II and III and comprised mostly fish and smoked meat from hunted animals. The Inonda people acquire almost four times as much cash from sales as they spend on purchases of subsistence produce.

439 In total, subsistence produce accounts for only a small proportion of monetary exchanges, which are concerned mainly with storebought goods. The total value of purchases of such goods is almost $200. As with gift exchange, clothing and rice are the most important items, with certain other foodstuffs - tinned fish, bread, sugar, biscuits and flour - also accounting for significant proportions. Apart from food and clothing, the main items purchased comprise household goods and tools and equipment for work.

[438] Apart from goods sold through the medium of the trade store,[1] copra was the only non-traditional commodity sold during the 26 weeks of the recording periods. Some coffee was, however, sold in the weeks intervening between the three periods.[2]

439 431 The excess of acquisitions over disposals of storebought foods is evidence of the comparatively slight degree to which they enter into the gift exchange system, with the exception of rice and tinned

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[1] For details of the operation of the trade store, see p.255. 8

[2] See p.257.

A,[See Category 892, p.247--Analyst] B,[See Category 444, p.235--Analyst]

meat and fish. Between 4 and 6 lbs of rice are given out each week on average, mostly as plates of cooked rice.

Table 11:2

Inonda: major items of monetary exchange over the whole survey period

	Acquisition			Disposal		
	lbs	$	%	lbs	$	%
A. Subsistence produce						
Xanthosoma	50.0	0.70	9	-	-	-
Banana	-	-	-	25.0	2.10	7
Coconut	2.0	0.10	1	15.0	0.75	2
Areca	9.8	2.06	27	1.0	0.20	1
Tobacco	-	-	-	0.5	0.20	1
Fish	8.5	2.10	27	39.0	6.80	23
Crocodile	-	-	-	12.0	4.50	15
Bird	-	-	-	12.0	2.10	7
Bandicoot	1.0	0.10	1	3.5	0.90	3
Wallaby	5.0	0.30	4	35.0	3.50	12
Pig	21.0	2.40	31	87.5	8.30	28
Eggs	-	-	-	0.3	0.30	1
Total	97.3	7.76	100	230.8	29.65	100

B. Storebought goods	$	%	$	%
Rice	21.40	11		
Tinned fish	16.86	8		
Tinned meat	5.98	3		
Bread	13.04	7		
Sugar	12.94	7		
Flour	12.60	6		
Soft drinks	4.72	2		
Sweet biscuits	11.44	6		
Hard biscuits	2.20	1		
Prepared refreshments	8.10	4		
Other foodstuffs and medicines	5.72	3		
Cigarettes, tobacco, alcoholic drinks	4.00	2		
Clothing	37.44	19		
Other	12.16	6		
Household goods	13.40	7		
Tools and equipment	16.70	8		
Copra			2.32	100
Total	198.70	100	2.32	100

433 434 As shown in Table 13:2, returns vary greatly, with some of the most favourable activities being pursued only by the entrepreneur in Inonda - a man who profits greatly by his personal contacts with a number of expatriates. By far the highest returns are obtained from marketing pig within the village, but dictates of custom restrict the frequent practice of this. While 'establishment' costs - in the sense of rearing pigs, growing produce, seeking contracts and employment, etc. - have been disregarded in estimating these returns they are, at the present stage of development, very low and often 'hidden' by subsistence sector requirements. Pigs are reared and garden produce grown as a part of the subsistence routine and their marketing is largely incidental; the decision to market wild game may only be taken after a successful hunting expedition; and the entrepreneur is well-known to the Administration as a reliable and resourceful individual and is often approached first about contracts.

The proliferation of cash-producing activities suggests one of three possibilities: that any single source of income, such as cash cropping is by itself inadequate; that cash cropping is not considered the best source of income; that demand exceeds the income from any one source. While opportunities vary greatly from one individual to another, the question of choice between individual activities seldom arises since many occur so irregularly that they cannot be considered reliable sources of income.

Two main considerations appear to determine preferred means for the acquisition of cash: firstly, reliability of income, and, secondly, size of individual cash payments. Each bears some relationship to the criterion of returns to labour but distinctive elements are also incorporated. An established demand for cash implies the need for a regular income and, among the range of activities, only cash cropping and the marketing of subsistence produce can provide this for the majority of villagers. If establishment costs are taken into account returns from the latter are higher, while its complete adjustment to the agricultural routine renders it a more suitable activity for the subsistence farmer. [435] However, the value per unit weight of garden produce marketed at Saiho is, at 2c per lb, insufficient to elicit serious interest in Sivepe, while its perishability, relative to cash crops, is an added deterrent. The unit value of smoked fish and meat sold by the Inonda people at Popondetta market is much higher (20c and 10c per lb respectively) but there are likely to be social pressures operating against the too-frequent commercial exploitation of these village resources: an opposition somewhat similar (in terms of the utilisation of a scarce resource for personal gain) to that voiced [431] in Sivepe to the sale of domestic pigmeat. While such an attitude was never overt during 1964 it serves as a partial explanation for the fact that individuals often distributed game through the gift exchange nexus when they could have sold it at the market.

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Appendix 4

Standard weights and values used in the exchange pattern data

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Weight (lb)

(a) Garden and forest produce:

Areca, 24 nuts	1
Banana, 1 hand	2
Banana, 1 bunch	25
Breadfruit, 1	2
'Cabbage', 1 bunch	0.5
Coconut, dehusked, 1	1
Corn, 1	0.5
Hingi, 24	1
Manioc, 1	5
Pandanus fruit, 1	5
Pawpaw, 1	2
'Pitpit', 4	1
Puga, 24 nuts	1
Pumpkin, 1	3
Pineapple, 1	2
Sago, 1 ball	0.2
Sago, 1 bundle	20
Sweet potato, 1	1
Sugar-cane, 1 stick	2
Taro, 1	2
Water-melon, 1	15
Xanthosoma, 1	1.5
Yam, 1	1.5
Food, various, 1 plate	1
Food, various, 1 dish	3
String bag, any produce, 1	35

(b) Game:

Bandicoot, 1	8
Cassowary, 1	120
Cus-cus, 1	15
Flying fox, 1	1.5
Pig, 1 (therefore, head - 30, chest - 30, leg - 20)	200
Pigeon, 1	2
Tree kangaroo, 1	30
Wallaby, 1	55

(c) Various:

Firewood, 1 bundle	20

Monetary value (cents)

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(a) Food:

Dumplings, 1 plate	2
Fish, 1 lb tin	20
Flour, 1 lb	10
Lime, 1 lb	20
Meat, 1 lb tin	30
Meat, various, fresh/smoked, 1 lb	20
Meat, pig, fresh/smoked, 1 lb	10
Rice, 1 lb	10
Rice, 1 plate	2
Rice, 1 pot	20
Rice and fish, 1 plate	5
Salt, 2 oz	3
Tea, 1 pot	10
Tea/coffee, 1 cup	1

(b) Goods:

Coconut basket, 1	50
Sack, 1	50
String bag, 1	$2.00

245 242 423 178 The Land (Tenure Conversion) Ordinance of 1963 altered the tenure position by permitting the granting of individual title to any blockholder who desires it. By July 1964, 17 blockholders had applied for registration of their blocks as the first step to obtaining individual title. When conversion orders were made in favour of these applicants, their blocks were no longer subject to traditional tenure.

With the establishment of individual titles, a pattern seemed likely to develop of dispersed homesteads on smallholdings. In the original clearing no demarcation had been made of the fourth (rear) side of each block since by common agreement each blockholder was permitted to extend his area of cultivation by clearing additional forest on that side. Limits to such clearing were set by Epa and Ononda creeks to the south, and by the Gena and Seseko clan boundary markers to the north. This meant that there was room for extension of each block to a maximum of seven to ten acres.

245 242 178 The initially cleared area of each block, about one and a half acres, was ready for planting with shade trees (leucaena glauca). By August 1964 each block had been planted with about an acre of shade and cocoa trees. In some poorly-drained sections, numbers of trees of both types had died but the drainage problem could, it was thought, be overcome by deep-ditching. Late in 1962 and early 1963 many young cocoa trees suffered a severe setback as a result of infestation by army worm (tiracola plagiata). Marked irregularity was noticeable in the growth of the cocoa trees: this may be attributed to the depredations of army worm and, to some extent, to micro-variations in soils or topography.

The irregularity of tree growth was reflected in the wide variation in production from block to block. Production of cocoa had commenced at Ononda almost exactly four years from the inception of the scheme. Many blockholders had not, in August 1964, started to pick their cocoa but others were already harvesting regularly and systematically. No attempt had yet been made to establish a co-operative fermentary on the site provided. Instead, [439] the Popondetta Cocoa Fermentary Pty Ltd made a monthly trip to [435] collect wet beans from Ononda and two other centres. The price in August 1964 for wet beans at the fermentary was 5½ d. per pound. The price paid at the villages was 3 d. per pound, 2½ d. per pound being deducted for collection expenses.

[434] Cash income earned by the Yega from cocoa was still very small. Work time expended by Yega villagers varied widely. In a few instances pods were picked the previous day but most people picked and opened pods on the morning of the collection. Pods were opened under the trees on the blocks; the wet beans were then carried in cooking pots, basins or sacks about half a mile to the collection

roof, the store had to be rebuilt by the co-operative in 1954, on a site adjacent to the original one; it was replaced by a permanent building, constructed on a new site only 100 yards from the wharf at Cape Killerton.

Marketing was of minor importance for the first ten years of the store's operation. Although there were numerous coconut palms in the shareholders' villages, the subsistence demands on them were heavy. Very little copra was offered for sale at the store before 1962 but production increased following a renewed emphasis on the crop by the Department of Agriculture's Extension Service. Copra turnover increased from nil in 1961-2 to $254 in 1962-3 and $1104 in 1963-4. There were at the time of this study few other cash crops in production but labour was an important source of cash.[1]

By contrast the store's retail function was rapidly established. It was for 11 years under the competent control of its first appointed manager, Mr Hankin Kombega, a local Yega man who was also secretary of the society. Within two and a half years from the start of retail trading, a net profit of over $2000 was disbursed to shareholders at the rate of $0.25 for every $2 spent. Only two other rebates were paid - in November 1960 and December 1962; the rebate which would normally have been paid about the end of 1957 or early 1958 was diverted to the construction of the new store. The average rebate paid to shareholders in December 1962 was approximately $3 per head and for Yega shareholders the average was $5.10 per head. Although these amounts may sound small, it should be borne in mind that the share basis was only $10 per head. In addition, the rate of rebate (in 1964, $0.10 per $1) was much higher than that paid by co-operative societies in Australia. The inducement offered by the rebate system did influence Yega purchasers in their choice of a retail store. Of a sample group of eight men questioned, two claimed that all their purchases were made at the co-operative store, four others estimated that over half their purchases were made there, one estimated less than half and one was uncertain.

The Gona Villages Native Society Ltd was managed by a chairman, secretary and board of nine directors, all Papuans, elected by the shareholders. The board met each month and its minutes were sent to the Co-operatives Inspector in Popondetta for approval or veto. If decisions were vetoed, adequate explanation was given.[2]

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[1] See p.65.

[2] An example was the rejection of a board decision to increase the purchase price of copra from 3½d. to 4d. per lb. Detailed costs were calculated to show the board that at 4 d. (3 cents) per lb. they would make too small a profit margin.

Appendix

435 Assessed cash value of items in bride-wealth*

Pig (large)	$60.00
Ornaments and components of feather head-dresses (vernacular name)	
Daremo	$ 6.00 ea.
Gajina	1.40 "
Bati	1.00 "
Samba	1.00 "
Saima	0.50 "
Ungai jawo	0.50 "
Hono	0.50 "
Hau	0.40 "
Usege	0.20 "
Hombori	0.20 "
Ungai Jawo se) Pijama aku) Agena) Waiwa) less than	0.20 "
Bark-cloth	0.75 per sheet
Fibre mats	1.50 ea.
Household utensils	
Dishes and bowls	0.50 ea.
Clay pots	0.50 "
Enamel plates	0.20 "
Cups	0.10 "
Knives, forks, spoons	0.05 "
Food	
Taro (Colocasia) ½ lb ea.	0.03 per lb
Taro (Xanthosoma) 1 lb ea.	0.03 per lb
Yams 1 lb ea.	0.03 per lb
Bananas	0.20 per bunch
Dry coconut	0.05 ea.

* The cash values of most ornaments and components of head-dresses are taken from Crocombe and Hogbin (1963:97-9). Estimates of the cash values of other items were given by villagers.

Table 4

Inonda coffee production[1]

Year	Household No.	Weight (lbs. parchment coffee)	Price per lb.	Value
1960	1	242	1/2 and 1/3	£14.13. 4
	3	61[2]	" "	3.14. 4
	4	103[3]	" "	6. 3.11
	Total	406		24.11. 7
1961	1	246	1/-	12. 6. 0
	3	76	1/-	3.16. 0
	4	24	1/-	1. 4. 0
	Total	346		17. 6. 0
1962 (to Aug.)	1		1/-	8. 0. 0
	3		1/-	3. 0. 0
	4		1/-	4. 0. 0
	Total			£13. 0. 0

(1) Details of sales were obtained from receipts issued to producers by the Orokaiva Coffee Growers Society (for sales in 1962) and by the Department of Agriculture (for sales in 1960-1). Information for 1960 and 1961 is probably complete (except for sales from household 4 for 1961). Figures for 1962 include producers' estimates of the value of coffee they harvested during the first eight months of the year.

(2) Part of this coffee was sold by the brother of the head of household 3.

(3) Part of this coffee was sold by the step-father of the head of household 4.

CHAPTER 3 - OTHER PROPERTY

Housing

All materials for building the Inonda village were acquired from land and trees in which the people hold rights of one form or another.(1) The framework is usually made of wange saplings and the floor of black palm. Sago thatch is used for the roof and split sago midribs for the walls. Saplings for the framework may be obtained from any virgin bush or second growth though most people said they used saplings which they had cut during the course of clearing new gardens.

Sago for the roof and walls must be acquired from one's own trees unless they are inadequate, in which case it is necessary to negotiate with someone who has a surplus. Of the eight houses in the village, sago for three of them was obtained from trees belonging to the household head and for three others from trees belonging to the father of the household head. One, who has only permissive status in the village, obtained sago from his daughter's husband's father's trees. The last man has insufficient trees and obtained thatch from trees on his mother's clan's land in a neighbouring village.

Tools and equipment

Very few agricultural implements are used. Each adult male has an axe for felling bush and every man and woman has a bush knife which is used in weeding, clearing and harvesting. Planting is done with a digging stick. There are no other gardening implements in regular use.

The axes and knives were bought from local trade stores and though actual prices paid are not known, current re-

(1) With the exception of a few sheets of iron used for ridging and eaves which were collected from ex-army dumps.

placement cost is 19/6 for an axe and 12/6 for a bush knife, or a total of approximately £2.10.0 per family.

Most men own a shovel or two and three men have picks, but these were all collected from an abandoned army dump. They are used mainly for digging house posts and drains, though some use shovels to plant sweet potatoes. Most households have a grass-cutting knife for cutting grass around the houses and along the roads and a few men have some basic carpentry tools.(1)

Every man has one or more hunting spears which he has either made himself or inherited from a real or classificatory father. They are simple weapons and are said to take not more than a day to make. The councillor owns a gun which he purchased for £29.0.0.

Livestock

Domestic pigs and fowls are kept in small numbers. They are said to be owned by men, cared for by women, and eaten by all. They are killed only for feasts. Six householders have one pig each, one has three and one has seven. Only four households have fowls - one has twenty-four, one has two and two have one each. Eight of the pigs were bred by the owners, one was purchased for £1 cash, one was given by a man's former work-mate and six were given as piglets by relatives. Twenty-four of the fowls were obtained by barter, one by cash purchase, two by gift from a former work-mate and one by gift at marriage from a relative.

The only other domesticated animal is the dog, of which there are three in the village. Though only two men have dogs, they are used quite frequently for hunting.

Owing to the constant pressure on owners to make

(1) The total agricultural and other tools in the village are as follows: 10 shovels, 11 axes, 18 bush knives, 9 grass knives, 3 picks, 1 hoe, 7 hammers, 4 saws, 1 pinch bar, 3 chisels, 1 adze and an assortment of hunting spears. Total current replacement value is £55.5.0.

291 pigs and fowls available for feasts, there is no opportunity for the numbers of livestock to multiply, and demand always outruns the supply. Nor can the demand be met from neighbouring [1495] villages for they are beset with the same problem. Some European planters breed pigs for the local market and have no difficulty in obtaining £10 to £15 for pigs of moderate size to be killed for feasts. If the problem of the current customary obligation to make one's livestock available for feasting could be overcome, pig and poultry breeding for local consumption and local marketing would appear to be a fruitful source of cash income as well as of protein good.

Economic trees

241 The most important trees in the Inonda subsistence
245 economy are sago, coconut, betel nut, hauga nut, breadfruit, and pandanus. Sago is used for food as well as construction, while
[1124] the others are used for food only. Information on economic trees was gathered by interview only and, except in instances where we were able to check during the course of other work,
423 they were not counted on the ground. Economic trees are usually planted on land held by the lineage of the planter, but as rights to them are sometimes transferred by gift and inheritance between individuals of different lineages, sub-clans and clans, many persons hold rights to trees on land held by descent groups other than their own. Apart from a right of access, rights in trees do not entitle the holder to any rights in the surrounding land.

423 In addition to the rights of those born in Inonda, some
241 wives claim rights to use economic trees in their home villages.
245 They do not claim exclusive rights to specific trees,(1) but rather the right to harvest some produce from trees held by their fathers or brothers. This right is usually exercised only in the event of a shortage of food from the husband's land, or if the wife is on a visit home. During our stay we observed two persons exercising such rights - one to make sago about three

(1) With the exception of one woman who had been allocated specific coconut trees by her father.

436 Several villagers were asked separately to rank each kind of hambo and di in descending order of value. There was agreement as to the ordinal value of most items and the few discrepancies were eliminated by discussion with the elders.

[125] We took a list of hambo and di from each household head and details of the person from whom he had acquired each item, his relationship to that person, and the reason for the acquisition (whether as bride-price or by barter, cash purchase [128] or otherwise). Cash values for each type of di and hambo were assessed on the basis of average prices realized in known sales and purchases. Where the people could not recall an instance of the sale or purchase of a particular item, its value was estimated from its position on the scale of relative values given to us by the local people. Hambo were valued from £3 for daremo (though occasionally extra large ones sell for up to £20) down to 2/- for the more common articles. Most feathers are now so abundant that they have no cash value, but bird of paradise, ungaijawo and cassawary plumes are still sold. Further details of assessed values of hambo and di are given in Appendix B[A]

435 436 The cash value of hambo and di held in the village at the time of our survey was as follows:

Table 5

Cash value of hambo and di

	Cash value	Household range	Household average
Hambo	£52.17. 0	0 - £15. 6. 0	£6.12. 2
Di	£17.17. 0	0 - £ 4. 6. 0	£2. 4. 8
Total	£70.14. 0	0 - £19.12. 0	£8.16.10

Few men looked after their own valuables. Two brothers (each the head of a separate household) who kept theirs jointly, left them in the care of their married sister in another village. Another two brothers and their father left their valuables, which they owned jointly, with the wife of the elder brother. Those of another household were held by the wife of the household head. In one instance the household valuables were left in another village in the care of the parents of the

A [See Category 436, pp. 97-99--Analyst]

435 household head. Only one man looked after his own hambo and
436 di, and he was an elderly man who spent much of his time at home. The last household had no valuables. It consisted of a young couple and the man had given what few articles he possessed for his wife's bride-price. He has a job at present and is meeting his traditional commitments with cash.

426 The processes by which the valuables were acquired
425 are shown in the following table (in equivalent cash values):

Table 6

Acquisition of hambo and di

	Inheritance	Cash purchase	Barter	Bride-price	Made or caught	Other exchanges	Total
Hambo	9. 6.0	18.1.0	10.16.0	6.10.0	2.19.0	6.17 0	54. 9.0
Di	2.17.0	1.0.0	3. 0.0	3.14.0	10.11.0	2. 5.0	23 7.0
Total	12. 3.0	19.1.0	13.16.0	10. 4.0	13.10.0	9. 2 0	77.16.0

(These figures are slightly different from those listed in Table 5 above as these exclude details for one household which was in mourning, and include details of articles previously held by another household but since stolen.)

556 In traditional Orokaiva society the possession of
555 hambo and di demonstrated a man's prowess or that of his fore-
435 bears. Wild pigs' tusks form the main components of most
436 hambo and the spearing of wild pigs was a hazardous task requiring skill and courage. The next most important components were sea-shells, and they could only be obtained by contact with coastal folk (or from others who had contact with coastal folk). Such inter-tribal contacts appear to have been infrequent and risky. Feathers were obtained by snaring birds, a time-consuming process involving patient watching of intricately constructed traps and snares. The introduction of shotguns has facilitated the hunting of pigs and birds. There is now less skill and less time involved than previously. The trophies are consequently more abundant and of lower value. Likewise trading with the coastal people no longer requires courage or detailed

preliminary planning. One may walk to the coast at any time and obtain sea-shells by purchase or barter. Moreover, many people now place a higher value on imported objects, both ornamental and utilitarian.

Nevertheless, hambo and di still have a value. A man derives prestige from being "rich in hambo", a wedding is not complete without the exchange of valuables, and a man is not properly dressed for important festivals unless he is adorned with hambo and di. Moreover, one is sometimes forced to acquire hambo, as in the case of a relatively wealthy man in a neighbouring village who cannot decline the requests of relatives (in Inonda and elsewhere) to give them cash for hambo to enable them to pay their tax.

In a bride-price exchange which we observed a total of £41.0.0 was given in cash, plus £13.19.0 worth of hambo and di. It is significant to note that it was the closest relatives who gave cash (or cash and valuables) and generally the more distant ones (or close ones who had no access to cash) who gave traditional valuables. Likewise the most important of the recipients kept the cash, and the traditional valuables were distributed to the more distant kin.(1) At a birthday feast which we observed only cash was contributed.(2) It is apparent that money is now of greater importance than hambo and di even in local ceremonial activity.

The total value of traditional valuables held in the village is less than that of cash savings (see p. 54). Savings in cash amount to 24% of annual cash income in the village and the remainder of the income is used for current expenses. Cash circulates much more rapidly than valuables and is used for a greater variety of transactions. It is likely that the relative importance of cash will continue to increase.

Income and expenditure

Details of cash income and expenditure were collected in respect of the first eight months of the year and are

(1) For a fuller report on this wedding see Hogbin, 1963.

(2) See Crocombe, 1963.

apply only to activities which are traditional or local. They do not apply with the same intensity to wage labour outside the village.(1) If major increases in cash cropping were to eventuate the amount of time now spent in festivities would need to be reduced or, alternatively, bought foods would need to be substituted for garden crops at feast times.

Other limiting factors

Income: Past experience has made people cautious about the prospects for their present cash crops. They are aware of the failure of the attempt to establish oil palms as a cash crop in the 1920's, of the abortive sugar project of the early 1930's, of the compulsory planting of coffee in the same decade and the subsequent collapse of the coffee market with the outbreak of war, and of the introduction and failure of rice cultivation in 1948-49. Some are aware too of the collapse of the peanut market within two years of the introduction of peanuts as a plantation crop in 1957. It was not, however, tried as a village crop on any significant scale. Though the people are not aware of the precarious state of the world market for coffee and cocoa today, they are aware of the price decreases over recent years.

Income from cash crops is not only uncertain, it is quite small and the people derive much less income from their coffee than they expected. This is due in part to unrealistic expectations, but also to decreases in price between the time of planting and the present,(2) and to inadequate knowledge of coffee husbandry. In the village context it is unlikely that the average man could, after meeting his family's subsistence needs and social commitments, clear and maintain more than two and a

(1) We are nevertheless informed by many Orokaiva people that the number and duration of traditional ceremonies and the number of people participating in them have all decreased markedly during recent years. They have been replaced to some extent by church festivals and sports but these activities are said to take much less time. This view is confirmed by comparing the social activities of today with those described by Williams, 1928 and 1930. The period of mourning after death has in particular been reduced and now involves fewer people.

(2) The cash price per pound paid to the grower was 2/- in 1959, 1/6 in the early part of 1960 and 1/2 in the later part, and 1/- in 1961-2. The price at present being paid is 11½d. per lb.

duction is at present so small that it is not difficult to take coffee or cocoa on foot and there is every indication that transport services in the roaded parts of the district will be available before output is greatly increased.

Coffee is sold to the Orokaiva Coffee Growers Society in Popondetta and cocoa to private traders. Cash is paid at the time of sale and in the case of coffee a bonus is also paid at a later stage if profits permit. Marketing facilities cater adequately for present production.(1)

The situation regarding perishable products is quite different. The only outlet for fresh fruits and vegetables is at the Popondetta market which is held every Saturday. Market prices are low (by comparison with those at Port Moresby or other larger markets) and most commodities are oversupplied. When produce is taken to market it is not uncommon to have to bring some back or discard it. The villagers could supply considerable quantities of fresh vegetables (particularly taro) if the demand for it could be increased. There is usually a keen demand for fresh fish, pork and poultry, and the market could absorb much more than is at present supplied.(2)

Some implications for policy

The surplus of underemployed labour among those villagers who do not work for wages (and local wage labour will soon cease with the completion of construction contracts) can be used economically in primary production in two ways. Firstly people can be encouraged to plant additional cash crops. It has been shown that this is hindered at present in Inonda by problems of land tenure. If these were overcome an increase in productivity would probably result, though it would be limited by the present traditional demands on time.

Secondly, a small proportion of the more active and

(1) For details of the export market for New Guinea coffee and cocoa see Reserve Bank, 1962.

(2) A detailed study of the Popondetta market by R. B. Dakeyne is now being prepared for publication in this Bulletin.

APPENDIX B

436
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Non-monetary valuables

Ornaments (hambo)

in descending order of value(1)

Ornaments	Where worn	Description	Assessed cash value
Daremo	Forehead	Made of red sea-shell	£3 each
Dambariso	Forehead	As above but having different design	£2
Hoave	Single held in teeth, double hangs on chest	Made of large white seashells	£1
Bati	Neck	Made of dogs' teeth	10/-
Gajina	Arm	Made of trochus shell	10/-
Bagi (ajawa)	Neck and hangs on chest	Made of trochus shell	10/-
Ganda	Held in teeth	Made of several young pigs' tusks	5/-

(1) Several villagers were asked separately to rank hambo and di in descending order of value. There was agreement on most items and minor discrepancies were eliminated by discussion with the elders.

Ornament	Where worn	Description	Assessed cash value
Parasi	Neck and hangs on chest	Made of brass from army dump or from tooth brush handle	5/-
Hono	Held in teeth and hangs on chest	Made of two large pigs' tusks	5/-
Poino (saima)	Head	Made of white sea-shells	5/-
Perere (keri)	Neck	White seashells	4/-
Hau (kuri)	Neck and hangs on chest	Large seashell beads	4/-
Sipe	Neck and sides	Made of silvery sea-shells	4/-
Simba	Head	Seashells	4/-
Ori	Neck	Seashells	4/-
Jaja	Head	Seashells	4/-
Matajo	Belt	Made of string and seashells	2/-
Sara	Head	Seashells	2/-
Erumo	Hangs from shoulder	Made of several sea-shells	2/-
Paho	Held in teeth	Large seashells	2/-
Hura	Forehead	Seashells	2/-
Sapi	Neck	Unknown	2/-
Sameme	Arm	Arm band made of trochus shell	2/-
	Feather head-dresses (di) in descending order of value		
Samba (rokou)	Head	Bird of Paradise feathers	10/-

Head-dress	Where worn	Description	Assessed cash value
Ungaijawo	Head	Rare mountain parrot	5/-
Homboru	"	Cassowary feathers (dark)	2/-
Usege	"	Cassowary feathers (yellowish green)	2/-
Tuna	"	?	-
Suni	"	Red parrot	-
Waiwa	"	Small red parrot	-
Agena	"	White cockatoo	-
Pijama	"	White feathers from hornbills' tails	-
Koro (waja)	"	Black feathers from hornbills' wings	-
Peremo	"	Hornbills' beaks	-
Guvero	"	?	-
Pupu	"	?	-
Borongo	"	?	-
Kombu	"	?	-
Amone	"	?	-
Karenga	"	Large blue parrot	-
Kahu	"	?	-
Gere	"	?	-
Kaumba	"	?	-
Hoiroi	"	?	-
Sara	"	Mixture of various feathers	-
Asigi	"	?	-
Suni	"	?	-

472 493 484 income derived from cash-cropping and trading. Prestige may be an even more important motivation to the acquisition of vehicles than it is with trade stores.

435 Other property

472 471 422 184 As shown in Table 3 the entrepreneurs have tools to the average replacement value of $30 and equipment associated with their cash-cropping to an average replacement value of $180 - an average of $210 per man. By comparison Orokaiva people of Inonda village had only about $13 and Sivepe village about $18 worth of tools and equipment per household.[1]

472 422 435 The entrepreneurs all had a range of consumers durable goods far beyond that found in villages. A and B owned bicycles worth about $50 each, A and D each had a radio which cost $60 and $47 respectively, and A and D also each owned wood-burning stoves costing about $70 each. The wife of C had a sewing machine which cost $70 (not listed in the table of tools and equipment as it is used only for domestic purposes). All had kerosene lamps and three of the four had clocks or watches. The average replacement value of the above items was in the region of $125 per man. It is estimated that possessions of this kind in Orokaiva villages in which we worked would average about $10 per householder.

472 342 (184) [422] The houses of the entrepreneurs are all somewhat larger than the average village house, and for many years B maintained two homes - one in his coffee garden and one in the cocoa garden. D's home is much more elaborate than the others and contains crockery, cutlery and kitchen utensils worth over $50 as well as beds, chairs, tables and curtains which are almost never found among villagers.

472 471 435 A has a modern cocoa fermentary worth $500, B has a coffee drying store and trays, estimated worth $80, and C a copra drier worth about $100.

472 231 184 By comparison with other Orokaiva people the entrepreneurs have few livestock, at least partly because they damage the root systems of the coffee and cocoa trees. A, B and C had none at all and D kept thirteen fowls from which he hopes to breed for commercial egg and poultry production. Householders at Inonda and Sivepe, by contrast, kept an average of two pigs and two to three fowls each.

472 [434] [454] At the request of the entrepreneurs, details of their individual holdings of cash are not included in this paper and can only be made available to researchers or to others with the permission of the entrepreneurs. All four have savings accounts, the average

[TEXT CONTINUED ON PAGE 16]

[1] Crocombe and Hogbin 1963b:44-5, Rimoldi 1966:25. Other comparisons in this section are drawn from the same sources.

Table 3

Replacement value of tools and equipment owned by entrepreneurs*

	A		B		C		D	
	No.	Value $	No.	Value $	No.	Value $	No.	Value $
Tools								
Axes	2	3.35	2	3.90	3	5.85	2	5.00
Bush knives	5	7.25	3	4.35	5	7.40	2	2.40
Grass knives	5	1.25	4	1.00	3	0.75	-	-
Picks	1	2.90	1	2.90	-	-	-	-
Shovels	1	3.20	1	2.40	1	2.40	-	-
Spades	-	-	3	6.15	1	2.05	2	2.40
Forks	-	-	1	2.92	1	1.70	-	-
Rakes	-	-	-	-	-	-	1	0.85
Hoes	-	-	1	1.25	-	-	-	-
Adze	1	2.35	1	2.35	-	-	1	1.50
Saws	2	7.45	-	-	1	2.40	1	4.50
Hammers	1	1.65	1	1.65	1	0.80	2	2.05
Pinch bars	1	1.50	-	-	-	-	-	-
Planes	-	-	-	-	-	-	2	8.75
Levels	-	-	-	-	-	-	3	7.20
Shears	-	-	-	-	-	-	1	0.85
Rulers	-	-	-	-	-	-	1	0.80
Total tools		30.90		28.87		23.35		36.30
Equipment								
Shotguns	1	56.00	1	56.00	1	56.00	1	43.00
Coffee hullers	1	28.00	2	50.00	-	-	-	-
Coffee pulpers	1	64.00	1	58.00	-	-	-	-
Coffee grinders	1	4.15	-	-	-	-	-	-
Pulping troughs	-	-	3	6.00	-	-	-	-
Rice hullers	1	31.00	-	-	-	-	-	-
Knapsack sprays	1	26.50	-	-	-	-	-	-
Counter scales	1	3.50	1	6.00	-	-	1	3.00
Produce scales	1	8.50	1	12.00	-	-	-	-
Water hoses	-	-	1	4.72	-	-	-	-
Buckets	-	-	-	-	-	-	2	3.70
Iron	-	-	-	-	-	-	1	9.00
Sewing machine	-	-	-	-	-	-	1	192.00
Total equipment		221.65		192.72		56.00		250.70
Total tools and equipment		252.55		221.59		79.35		287.00

* These were retail replacement values in Popondetta stores at the time the inventories were made.

245 Individual planting of cocoa was tried next, with twenty-one people planting between 20 and 1,300 trees each. The average [435] plantation size per person was 318 trees. Pests and later the sharp fall in world cocoa prices discouraged maintenance and most of the cocoa trees have now been abandoned.[1] Ten people have each planted between 200 and 560 coffee trees with moderate success. In view of this history of setbacks and discouragements there is added significance in the enthusiasm of the Ombi-Tara people for tenure conversion.

Origins of conversion

177 An Ombi man named Charles was instrumental in persuading the 464 people of the merits of conversion. He had attended the local mission school for two years and, after a year as a medical orderly at Saiho hospital, worked for eighteen months on a rubber plantation at Sogeri. Next he worked in Rabaul with two other Ombi men for an oil company. At the end of his eighteen months' contract the company returned him to Ombi. He had intended to return to Rabaul to take up a $24 a week job he had been offered as a taxi driver but was elected Local Government Councillor at Ombi-Tara and held that position for seven years until 1963. He has worked for eight months as a cook at the nearby Sangara ex-servicemen's plantations, and had intended to apply for one of the Papuan resettlement blocks at Sangara before he heard of the possibility 245 of establishing a tenure conversion scheme at Ombi-Tara. He planted 249 1,300 cocoa trees, 400 coffee trees and 300 bush rubber trees before conversion was introduced, and had planted 661 of the new high yielding rubber seedlings up to November 1965, well above the village average.[2] He has been employed full time since October 1965 on road maintenance work near Ombi.

242 Conversion at Ombi-Tara began with a visit by a resourceful 249 Agricultural Officer (Mr D. Birmingham) in mid 1963. Noticing Charles planting some bush rubber seedlings the officer asked whether he might not prefer to plant some of the higher yielding Malayan rubber seedlings which the Department of Agriculture would supply at low cost. Charles agreed and recommended other villagers to do likewise. The Ombi-Tara people agreed and a rubber nursery was established close to Ombi village soon afterwards by the

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[1] The Ombi-Tara people's experience with cocoa demonstrates that a sharp decrease in world commodity prices can affect progress in developing countries not only by causing earnings of foreign exchange to fall, but also by so disheartening village producers that they cease production altogether.

[2] See p.32.A

A [See Category 245--Analyst]

231 they marauded gardens, so that I assume that a good number could be rounded up if Sivepe were to hold a major feast. They were not at all accessible, however, and none were caught during such hunting [422] expeditions as the people organised. On the occasions when marauding pigs were shot, the pigs were always recognized and presented by the killer to the owner who then presented his pig to some other person. No doubt these pigs were a resource and perhaps I was at fault for not taking a census, but with no pigs visibly in evidence, I considered these assets as too shadowy. In Inonda, where Crocombe and Hogbin reported 12 pigs in 1962, only two were left in 1966. 235 My prognosis for pigs as an economic resource is poor. The fowl [262] population, on the other hand, had remained very much as it was at these earlier investigations: eggs were discovered and eaten occasionally, but the use of the fowl was for feasting when visitors [239] had to be entertained. It was also noticeable that the roosters were deprived of many of their choicest feathers at a time when [295] headdresses had to be refurbished for dancing or spears decorated. [411] At a visit from Togahou, which by traditional etiquette, as I understand it, should have rated at least one pig, the people of [594] Sivepe killed only fowls. This was, I was told, because there were no pigs available; hence the fowls were a proper substitute. It would seem that the fowl is rapidly becoming the substitute for the pig on many ceremonial occasions, though not yet for all occasions.

There is a great shortage of both pigs and fowls for these 438 ceremonial occasions. Pigs are bought for high prices ($20 to 439 $30)--from neighboring villages and even, as Crocombe and Hogbin say, from European planters. Fowls tend to be made available on [435] big occasions by whoever has them so that their number does not increase--a few dozen in each of the two villages.

We may distinguish, among local plant resources which yield 241 economic products, those plants which are native to the district 311 and those which have been introduced by Europeans for cash cropping purposes. Starting our survey with the former of these two categories, we shall deal first with food plants and next with economic trees. I have tabulated average food plants per household as shown for Rimoldi's Sivepe sample and as shown by Crocombe and Hogbin for Inonda (Table 7).[A] The pattern for the two places is remarkably similar except that sweet potato is a notably more important crop at Inonda than at Sivepe. The reason for this is that it is more dependable under drought conditions such as often occur at Inonda and also, it seems to do better at Inonda. The fact that the Inonda taro acreage is higher than the Sivepe acreage reflects no more than the higher yield per acre in the latter place. There is no evidence that any major change occurred in the quantities grown or the methods of cultivation over the period with which we are concerned, though a small increase in the consumption of Xantosoma taro may be a symptom that people may be starting to

A [See Cat. 116, p. 212--Analyst]

177 concepts drawn from the scene of world affairs. While among the
829 Orokaiva, I heard talk about Vietnam, Indonesia, Africa, India. The
political orientation displayed was a mild kind of nationalism, and
[203] a sense of closeness to newly independent non-white states. But the
information, derived from radio broadcasts and speeches by councillors,
introduced an acculturative kind of perspective. Its dissemination is
being actively encouraged by the Australian authorities.

465 Use of money: Before the eruption, money played a very minor role
in village life. It was earned by men who were away for limited
[464] periods working on plantations. Money wages on plantations were, and
are, extremely low; wages for agreement labour in 1962 were, for
instance, $39 per annum for the first year of which $12 is paid out
in monthly installments and the rest at the end of the year. In the
second year, the rate rose to $45.50 p.a. (Howlett, 1965) Urban wages
are a great deal higher than this; most Sivepe men who were absent
on employment worked on urban jobs. At the same time, a regular
income was derived from coffee.

464 Sivepe men were simply not interested in jobs at plantation
rates of pay, nor were they interested in "carrying" jobs for the
435 government even though wages in that case were higher. They were also
438 indifferent to selling their garden products on the Saiho and Popondetta
markets, as there were frequent gluts, prices were low and carrying
goods to market was an unduly arduous task.

436 Money was used largely to buy goods in the luxury rather than
511 the subsistence sphere. Money was essential for payment of taxes
and for a minimum of clothes, often acquired cheaply at jumble sales.
Otherwise, it was used to buy tobacco, food for feasts, kerosene
mainly used for feasting occasions, cartridges for hunting, again for
feasts. Among the larger purchases made were radios, pressure lamps,
bicycles, tools; all these, however, could never be paid for with
current income. One had to depend on special windfalls: a gift from
454 a relative in town, a bride price. Money was not only for spending,
556 however; it was also for saving. I shall refer to the organisation
of corporate saving later; in addition a number of Sivepe men had
savings, of the order of $10-$20, sometimes more, hidden away. This
money was kept for special occasions, but in addition, the very fact
of possessing it was regarded as important. I was once told that
Europeans were powerful because they had money; the Orokaiva could
get power only if they too possessed savings.

436 If money was definitely highly valued, it was only to a limited
437 extent regarded as a standard of value. If we accept some model such
as was suggested by Salisbury (1962), we may say that the Orokaiva
have three spheres of exchange: a subsistence, luxury and ritual
sphere, while bank notes are used for special, often ritual occasions.
[461] In the acquisition of luxury goods of any kind, including money, the
Orokaiva tend to weigh the benefits gained by them against their cost
in time and unpleasantness and against the benefits that can be gained
from other investments. Money is, in general, wanted only if it can

46 be acquired without too much hard labour or threat to status, and only
436 if its acquisition does not involve foregoing other more highly valued
437 benefits. Thus, the market has a great elasticity of supply: when
435 the price seems right to the Orokaiva, supply suddenly emerges from all directions; when the price is lowered, there is suddenly no supply at all. The investment of effort is at once directed into different avenues: subsistence gardening, house-building, a project for the mission, or a hall for the women's club, or a hunting expedition, or practises for a dance.

177 Comparison with Inonda: In this section I have discussed a small
184 number of acculturation variables as they apply to Sivepe. In general they apply to Inonda also, but there are a few minor differences to be mentioned. The most important of these is that whereas one can speak, in Sivepe, about a certain stage in acculturation reached by the community, it is less easy to do the same for Inonda where, at one end of the scale, we find fairly young men without cash-cropping skills, without school education, and almost entirely aloof from the money economy, while at the other end, one man has become a government driver and would need to be considered, in every respect, as more acculturated than any man of the same age group at Sivepe. It would be wrong to suggest, however, that acculturation in Sivepe was homogeneous; nor that the conservatism of part of Inonda is necessarily a long-term phenomenon.

There is no difference in food habits between the two villages, except that the government driver, having more money, eats better. In respect to clothing, it seemed that in Sivepe young women are a little more prone to cover their breasts than in Inonda; this is of course very much a matter of fashion and can change in months. With regard to housing, changes were actually occurring during the year I was in the field. Houses were being enlarged up to approximately the Sivepe size, and this programme was explained to me as due to the forthcoming feast at which the Seva people were invited and the new floor space was needed to accommodate them. The argument was thus not quite the same as at Sivepe, where the larger houses were thought of as a necessary part of "iji eha," the new age. "Timber" was not used in Inonda, all the walls being of sago. The "timber" fashion never travelled as far East as Inonda; I doubt whether Inonda had enough suitable trees and, furthermore, Inonda did not have the same shortage of sago. Though sago was rare on Inonda lands, the residents had a plentiful supply from other lands belonging to relatives. At Inonda, only some of the people used rubbish holes, whereas the others threw their refuse into the bush. On the other hand, the village was most plentifully and attractively laid out with shrubs and ornamental plants. Inonda, built a special feast house for their visitors from Seva, whereas Sivepe did not do so for their visitors from Togahou. This definitely reflected a non-traditional attitude in Sivepe.

177 In the attitude to money, and to education, Inonda was clearly
436 split between the traditionalist and the modern faction. The modern
583 faction was, in fact more money-oriented than were the Sivepe people.

654 and local field trials are being carried out on the volcanic soils of the Northern District.

242 Agricultural extension work was being carried on by Australian officers stationed in Popondetta, with the help of Papuan agricultural 242 assistants some of whom were stationed in a sub-office in Saiho. It is this staff which has been responsible for the gradual increase in coffee plantings and the spreading of basic knowledge about coffee cultivation. We should not, however, minimise the extent of knowledge and stimulus that spread not through the activities of officials but was passed on from experienced Orokaiva growers to beginners. Furthermore, many persons trained as agricultural assistants have returned to their villages and became a fund of knowledge to those around them. The assistants are trained in a course of between nine and twelve [874] months' duration, given at Popondetta. Papuans may also receive a full agricultural diploma course at a school near Keravat, New Britain, or a two-year sub-diploma course at a school near Keravat, New Britain, or a two-year sub-diploma certificate course given at Popondetta. Graduates from these schools were not yet working in the Northern District at the time of my visit.

No stabilisation fund for coffee exists in the Territory. The 435 violent fluctuations in price for this product do have a somewhat 245 unsettling effect on growers, though I could not observe very much of this as 1966-67 was a good year. I heard that in bad years in the near past people had been very disappointed. The problem of price fluctuations affects other tropical crops as well, and New Guinea has few sources of income which are significantly stabler than coffee. Therefore, no easy solution to this problem is possible. The Orokaiva Coffee Growers Society has been following a wise policy of withholding a substantial part of the proceeds in good years for capital improvement, thus providing a kind of cushion against fluctuations. Thus, in 1966-67, a substantial proportion of proceeds was withheld for improvements to the factory and trucks. Growers are paid an initial sum per pound substantially lower than the expected total proceeds, and the balance is in part distributed to shareholders at the end of the season, in part withheld. By this procedure, a substantial drop in export prices can be suffered without corresponding lowering of the initial cash payment. In 1966, the cash payment was $26 for a 150-pound sack.

657 A good deal of development work has been left for the Higaturu 423 Council to deal with. I have already mentioned that government officers attempted to have the council deal with matters of land tenure improvement (though Port Moresby authorities overruled this) and that the coffee factory was planned as a council operation though again plans were changed later. In 1966, the main activities of the council were 653 in the building of roads, the improvement of water supplies, the building of medical aid posts, the maintaining of the produce markets at Popondetta and Saiho and some minor social services. (For details, see Table 12.)[A] Thus, a sizeable area of local development had become

A [See Cat. 116, p. 217--Analyst]

27: Schwimmer E-5 (1966-1970) 1979 OJ23 Orokaiva OJ23

Alienation in the Creation of Exchange Value

435 In the Orokaiva village, exchange value may enter in four ways:
436 through cash crops, outside gifts, labour and business. The two
latter categories are recent. Whereas wages were an insignificant
[434] item in most villages during my 1966–67 study, a recent income
survey (Newton 1978) in a typical village showed an overall income
of about K675 per household, made up of coffee returns 35%, wages
37%, migrant gifts 12%.

[776] We have no special studies of work concepts in this sector, but
some general indications. It may seem surprising that Jesus Christ
was nominated as the originating deity of monetary compensation
for work, but New Guineans widely regard him as originator of
European wealth and therefore also, not illogically, of the concept
of money and exchange value. The idea of converting labour into
money, in itself, greatly interests New Guineans. Thus Daniel de
Coppet shows that in the Are'are social system there is but one
traditional method of converting food and services into shell
money, viz by acting as an undertaker. For this reason the office
of undertaker was a highly valued one. Thus Councillor Colin might
well genuinely revere a deity or culture hero who instituted the full
convertibility of labour into money.

461 The term *pure ari* is appropriate to describe the white man's
435 labour if for no other reason than that a 'job' just like the *pure* is
a place where one spends the day. The new dispensation has, sure
enough, its own conflict (*isoro*) and mode of conflict resolution.
[694] Councillor Colin brings this out by his example of the policeman
[759] who puts village men into handcuffs and takes them off to court.
In such a case it was the task of the sorcerer to ensure that the
men would escape conviction and be set free again.[20] Virtue, in
such a system, is largely a matter of keeping out of trouble, but
also it is a matter of not squandering the money but reserving
some – ideally half – of it to serve the needs of kinsmen and
fellow villagers: contributions to ceremonial payments, feasts,
travel expenses etc. Briefly, wages tend to be converted into
political power.

435 No great value was usually attached to conversion to western
436 commodities, except where these became valued prestations. Thus,
when transistor radios became valued prestations, they began to
appear in large quantities in the villages and were mostly paid for
by absentee workers.

[161] The subsistence/feasting duality continues in this system in that
some money is needed for the former but a labourer would have
little status in his home village if he did not set aside something for

27: Schwimmer E-5 (1966-1970) 1979 OJ23 Orokaiva OJ23

435 436 167 the latter. Also, migrants normally leave behind a family member with the task of looking after the land (*simbari*) in a technical, magical and juridical sense. Often he also leaves behind a wife for whom he is saving brideprice but who meanwhile must be looked after by his relatives. Money sent home therefore covers not only feasting contributions but also the function of *simbari*. This is not because village people would not perform such services free of charge but because, when a man earns money, those who help him earn that money are entitled to their share.

169 461 [571] If we look only at the relations of production migrants have in their jobs, they seem totally 'alienated' (cf. Parkin, this volume). Not only have they no control whatever over the product of their labour but this product lies entirely outside their conceptual universe. Yet these migrants avoid proletarianization in the full sense because they continue to have a stake in the village environment, which has its own economic, political and ideological base.

435 Our remarks above apply similarly to the village cash-crop sector. With the exception of coconuts, the use value Orokaiva see in European cash-crops is either very limited or non-existent. Coffee and cocoa are classified as non-foods, rubber latex as an unusable substance. Even the coconut, though an important food when fresh, represents no use value to Orokaiva when dried into copra.

[245] This lack of perceived utility has not stopped cultivation of these crops on village land nor their processing by village-purchased machinery. Everyone irrespective of age is growing coffee. Those who are pressed for time tend to give priority to coffee and to partially replace their plantings of taro with 'German taro' – less valued but less laborious.[21]

245 824 461 Growing coffee is not considered pleasurable like growing taro. When suggesting to an informant that coffee trees have a sweet smell, I was firmly told: "*We* think the smell is dreadful". Such feelings go to show that the division between the spheres of use value and exchange value is not purely analytical but corresponds to a conceptual boundary between two models of life and work, and that Orokaiva try to keep this boundary clear. Coffee is grown because it takes far less time than it would to grow subsistence crops for the market, but the grower feels alienated from it while he feels [438] identified with the subsistence crops. A small quantity of subsistence crops – surplus to requirements – is in fact sold in local markets for consumption by local people, but growers take the same care with them and regard them in the same way as the food they eat.

461 [177] It is paradoxical that the work represented as introduced by Jesus

Cargo deities are renewed for each movement; in all cases their return to earth would not only bring the wealth but also a new moral order. They would banish strife, indeed brotherhood between tribes is a condition of their return. This idea existed in the Northern Province of Papua New Guinea as early as the Taro movement of 1914 (Williams 1928). The work to be done is ritual work for which the design (*ove*) is laid down by the prophet of the cult. The form of *simbari* required here has to do with certain ritual places where the miraculous return might take place – among the Orokaiva, often graveyards. As for the cargo itself, the correct term is *hande*, i.e. generous sharing out of the treasure that has previously remained hidden from the New Guineans.

All these concepts will seem marginal until one sees their implications for everyday events. To this end, let us consider the position of money as *hande*. Most anthropologists have treated ceremonial money prestations as simply equivalent to traditional valuables. But is it really? First of all, it is common knowledge that traditional valuables are no longer acceptable as a substitute for money. This has sometimes been interpreted as a purely secular liking for money, which to a westerner seems so plausible that he does not see the need for explanation. If the money is presented as a money tree, this again can be explained away as substitution within a traditional idiom.

When I discussed savings societies, I expected to be given an explanation in terms of practical spending projects or other economic considerations but was given a political argument instead. It was to equal the power of the Europeans, so I was told. Again, a friend was presented with a dollar to be taken back with him to New Zealand. He should put it in the bank there, so he was told, and then it would multiply a thousandfold. On an apparently quite different topic, wages, I was told that the wealth created by them exceeded by far what they were given as pay.

It is for this reason that Orokaiva are exceedingly interested in 'business', both cooperative and individual. I have personally observed a copra cooperative and several trade store and truck projects, both cooperative and individual. Newton (1978), in a village close to the ones I know, describes in much detail six trade stores, four truck ventures and a cattle project, which represents a great deal of activity for one small village over a six-months period. Several of these projects were cooperative. All of them were failures. The fact that the ventures all fail does not stop people from repeating the experience year after year.

Let us now consider in detail one of the events described by